Amendments to the Specification (Marked-up Version):

Please replace the paragraph beginning on Page 1, lines 3-4, as follows:

-- The invention relates to a method ~~according to the preamble of claim 1~~ for separation of solids from gases. --

Please replace the paragraph beginning on Page 1, lines 11-12 as follows:

-- The invention also relates to a cyclone apparatus ~~according to the preamble of claim 13~~ comprising an assembly formed by at least two multiple-inlet cyclones.--

Please replace the paragraph beginning on Page 2, line 9, as follows:

-- In an FCC unit, the riser and the large-volume reactor deliver a gaseous flow of suspended solids, whose particulate matter and product gas are separated from each other in cyclones whose function is based on centrifugal force. Typically, the gaseous flow is passed through a train of multiple cyclones in order to improve the overall separation efficiency, because single cyclones of normal construction exhibit inferior separation performance for particles smaller than ~~15 Φm~~15 μm.--

Please replace the paragraph beginning on Page 4, line 16 as follows:

--More specifically, the method according to the invention is characterized by what is stated ~~in the characterizing part of claim 1~~in the claims.--

Please replace the paragraph beginning on Page 4, line 20 as follows:

--Furthermore, the cyclone apparatus according to the invention is characterized by what is stated ~~in the characterizing part of claim 13~~in the claims.--

Please replace the paragraph beginning on Page 5, line 13, as follows:

--A multiple-inlet-multicyclone apparatus can perform particularly effectively as a secondary or tertiary separation unit inasmuch the gaseous stream is directed close to the inner wall of the separation chamber by means of the above-mentioned vanes. Hence, an apparatus according to the invention can achieve the separation of extremely small particles, especially those mentioned above to have a size smaller than ~~15 Φm~~15 μm, from the flue gases in a fashion of superior efficiency over the prior art, whereby an FCC apparatus can be adapted in a particularly cost-efficient manner to comply with the tightening requirements on a smaller dust concentration in the operation of an FCC apparatus. A competing technology is represented by the electrostatic precipitator which is generally employed in energy production, but is a substantially costlier choice as to its investment costs, footprint requirement and operating costs.-

Approval is respectfully requested.

Amendments to the Specification (Clean Version):

Please replace the paragraph beginning on Page 1, lines 3-4, as follows:

-- The invention relates to a method for separation of solids from gases. --

Please replace the paragraph beginning on Page 1, lines 11-12 as follows:

-- The invention also relates to a cyclone apparatus comprising an assembly formed by at least two multiple-inlet cyclones.--

Please replace the paragraph beginning on Page 2, line 9, as follows:

-- In an FCC unit, the riser and the large-volume reactor deliver a gaseous flow of suspended solids, whose particulate matter and product gas are separated from each other in cyclones whose function is based on centrifugal force. Typically, the gaseous flow is passed through a train of multiple cyclones in order to improve the overall separation efficiency, because single cyclones of normal construction exhibit inferior separation performance for particles smaller than 15 μm.--

Please replace the paragraph beginning on Page 4, line 16 as follows:

--More specifically, the method according to the invention is characterized by what is stated in the claims.--

Please replace the paragraph beginning on Page 4, line 20 as follows:

--Furthermore, the cyclone apparatus according to the invention is characterized by what is stated in the claims.--

Please replace the paragraph beginning on Page 5, line 13, as follows:

--A multiple-inlet-multicyclone apparatus can perform particularly effectively as a secondary or tertiary separation unit inasmuch the gaseous stream is directed close to the inner wall of the separation chamber by means of the above-mentioned vanes. Hence, an apparatus according to the invention can achieve the separation of extremely small particles, especially those mentioned above to have a size smaller than 15 μm, from the flue gases in a fashion of superior efficiency over the prior art, whereby an FCC apparatus can be adapted in a particularly cost-efficient manner to comply with the tightening requirements on a smaller dust concentration in the operation of an FCC apparatus. A competing technology is represented by the electrostatic precipitator which is generally employed in energy production, but is a substantially costlier choice as to its investment costs, footprint requirement and operating costs.--

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims (Marked-up Version)

Please amend claims 1,3, 5-11, 15-21 as follows. All claims are listed below.

1. (Currently Amended) Method for separating particulate matter from a gaseous stream, the method comprising

- passing the gaseous stream containing the suspended particulates into a separator apparatus which includes at least two multiple-inlet-multicyclones (16A - 16C; 31A-31E), ~~wherein~~ and separating the particulates ~~are separated~~ from the gas by centrifugal force,

characterized in that

- a separator apparatus is employed wherein at least two (16A- 16C; 31A - 31E) of the multiple-inlet cyclones are adapted to operate in parallel so as to form a multiple-inlet-multicyclone apparatus~~;~~.

2. (Original) Method according to claim 1, characterized in that the gaseous stream to be treated is flue gas discharged from a primary separator apparatus.

3. (Currently Amended) Method according to claim 2, characterized in that said primary separator apparatus comprises ~~a conventional~~ an axial cyclone or multiple-inlet cyclone or a cascaded cyclone configuration of ~~the same~~the axial cyclone and multiple-inlet cyclone.

4. (Original) Method according to claim 1, characterized in that the gaseous stream to be treated is passed into said multiple-inlet-multicyclone apparatus from a secondary separator apparatus.

5. (Currently Amended) Method according to claim 4, characterized in that said ~~primary and~~ secondary separator apparatuses comprises ~~a conventional~~ an axial cyclone or multiple-inlet

cyclone, a cascaded cyclone configuration of ~~the same~~ an axial cyclone and multiple-inlet cyclone or a combination of a multiple-inlet cyclone with a cascaded cyclone configuration.

6. (Currently Amended) Method according to ~~any one of foregoing claims~~claims 1-5, characterized in that the gaseous stream to be treated is product gas which is discharged from a fluidized catalytic process and contains suspended catalyst.

7. (Currently Amended) Method according to ~~any one of claims 1–5~~claim 1, characterized in that the gaseous stream to be treated is flue gas which is discharged from the combustion of coke performed in catalyst regeneration and hence contains suspended catalyst.

8. (Currently Amended) Method according to ~~any one of claims 1–5~~claim 6, characterized in that said fluidized catalytic process comprises catalytic cracking of hydrocarbon compounds performed in a fluidized catalytic cracking unit.

9. (Currently Amended) Method according to ~~any one of claims 1–5~~claim 1, characterized in that the stream ~~of said process discharge gas~~ to be treated is flue gas from a fluidized-bed combustion process of solid fuels performed in heat or power generation.

10. (Currently Amended) Method according to ~~any one of foregoing claims~~claim 1, characterized in that the dust concentration of the gaseous stream being treated is reduced to a value not greater than 50 mg/Nm^3.

11. (Currently Amended) Method according to ~~any one of foregoing claims~~claim 1, characterized in that the separation of particulate matter is carried out using 3 to 25 parallel-connected cyclones (16A-16C; 31A- 31E).

12. (Original) Method according to claim 11, characterized in that therein are used 3 to 25 parallel-connected cyclones (16A - 16C; 31A- 31E) in an arrangement, wherein the diplegs (20A - 20C; 38A- 38E) of the parallel-connected cyclones are adapted into the interior of a common discharge conduit (27; 34).

13. (Original) Assembly for separation of particulate matter from a gaseous stream in process equipment, the assembly comprising

- at least two multiple-inlet cyclones (16A- 16C; 31A- 31E),

characterized by

- having at least two of the multiple-inlet cyclones connected in a parallel configuration.

14. (Original) Assembly according to claim 13, characterized in that said parallel-connected cyclones (16A- 16C) have a common gas inlet channel (15) formed between two concentric cylindrical or partially conical envelope surfaces (12, 14; 14, 21), whereby said cyclones (16A - 16C) are adapted to operate in the interior space of said gas inlet channel (15).

15. (Currently Amended) Assembly according to claim 13~~ or 14~~, characterized in that said gas inlet channel (15) has an essentially circular cross section in a plane perpendicular to the center axis of the cyclone~~ separation chamber~~.

16. (Currently Amended) Assembly according to claim 13, characterized in that the center conduits (37A-37E) of said multiple-inlet cyclones (31A- 31E) are adapted to pass through a common gas inlet channel (~~40~~43).

17. (Currently Amended) Assembly according to~~ any one of claims 13 – 16~~ claim 13, characterized in that each one of said multiple-inlet cyclones (16A- 16C; 31A- 31E) is provided with a separation chamber which is equipped with guide vanes (17A-17C; 42A - 42E) and whose center axis is aligned essentially upright.

18. (Currently Amended) Assembly according to ~~anyone of claims 13 – 17~~claim 13, characterized in that the guide vanes (17A - 17C; 42A - 42E) of said multiple-inlet cyclones are spaced in an annular fashion about the inner perimeter of the cyclone chamber, reaching partially or

entirely into the riser channel so as to form a louver comprising a plurality of parallel inlet channels for the entering gas flow.

19. (Currently Amended) Assembly according to ~~any one of claims 13 – 18~~claim 13 , characterized in that the number of said parallel-connected multiple-inlet cyclones (16A - 16C; 31A - 31E) is 3 to 300.

20. (Currently Amended) Assembly according to ~~any one of claims 13 – 19~~ claim 13, characterized in that said assembly is connected to a fluidized catalytic process apparatus or process equipment used in fluidized-bed combustion.

21. (Currently Amended) Assembly according to ~~any one of claims 13 – 20~~claim 13, characterized in that said multiple-inlet cyclones have guide vanes serving to divide the gaseous stream into substreams so as to permit an accelerated gas flow velocity to be arranged individually for any one of said substreams.

22. (Original) Assembly according to claim 21, characterized in that the guide vanes are straight.

Listing of Claims (Clean Version)

1. (Currently Amended) Method for separating particulate matter from a gaseous stream, the method comprising

- passing the gaseous stream containing the suspended particulates into a separator apparatus which includes at least two multiple-inlet-multicyclones (16A - 16C; 31A-31E), and separating the particulates from the gas by centrifugal force,

characterized in that

- a separator apparatus is employed wherein at least two (16A- 16C; 31A - 31E) of the multiple-inlet cyclones are adapted to operate in parallel so as to form a multiple-inlet-multicyclone apparatus.

2. (Original) Method according to claim 1, characterized in that the gaseous stream to be treated is flue gas discharged from a primary separator apparatus.

3. (Currently Amended) Method according to claim 2, characterized in that said primary separator apparatus comprises an axial cyclone or multiple-inlet cyclone or a cascaded cyclone configuration of the axial cyclone and multiple-inlet cyclone.

4. (Original) Method according to claim 1, characterized in that the gaseous stream to be treated is passed into said multiple-inlet-multicyclone apparatus from a secondary separator apparatus.

5. (Currently Amended) Method according to claim 4, characterized in that said secondary separator apparatus comprises an axial cyclone or multiple-inlet cyclone, a cascaded cyclone configuration of an axial cyclone and multiple-inlet cyclone or a combination of a multiple-inlet cyclone with a cascaded cyclone configuration.

6. (Currently Amended) Method according to claims 1-5, characterized in that the gaseous

stream to be treated is product gas which is discharged from a fluidized catalytic process and contains suspended catalyst.

7. (Currently Amended) Method according to claim 1, characterized in that the gaseous stream to be treated is flue gas which is discharged from the combustion of coke performed in catalyst regeneration and hence contains suspended catalyst.

8. (Currently Amended) Method according to claim 6, characterized in that said fluidized catalytic process comprises catalytic cracking of hydrocarbon compounds performed in a fluidized catalytic cracking unit.

9. (Currently Amended) Method according to claim 1, characterized in that the stream to be treated is flue gas from a fluidized-bed combustion process of solid fuels performed in heat or power generation.

10. (Currently Amended) Method according to claim 1, characterized in that the dust concentration of the gaseous stream being treated is reduced to a value not greater than 50 mg/Nm^3.

11. (Currently Amended) Method according to claim 1, characterized in that the separation of particulate matter is carried out using 3 to 25 parallel-connected cyclones (16A-16C; 31A-31E).

12. (Original) Method according to claim 11, characterized in that therein are used 3 to 25 parallel-connected cyclones (16A - 16C; 31A- 31E) in an arrangement, wherein the diplegs (20A - 20C; 38A- 38E) of the parallel-connected cyclones are adapted into the interior of a common discharge conduit (27; 34).

13. (Original) Assembly for separation of particulate matter from a gaseous stream in process equipment, the assembly comprising

- at least two multiple-inlet cyclones (16A- 16C; 31A- 31E),

characterized by

- having at least two of the multiple-inlet cyclones connected in a parallel configuration.

14. (Original) Assembly according to claim 13, characterized in that said parallel-connected cyclones (16A- 16C) have a common gas inlet channel (15) formed between two concentric cylindrical or partially conical envelope surfaces (12, 14; 14, 21), whereby said cyclones (16A - 16C) are adapted to operate in the interior space of said gas inlet channel (15).

15. (Currently Amended) Assembly according to claim 13, characterized in that said gas inlet channel (15) has an essentially circular cross section in a plane perpendicular to the center axis of the cyclone.

16. (Currently Amended) Assembly according to claim 13, characterized in that the center conduits (37A-37E) of said multiple-inlet cyclones (31A- 31E) are adapted to pass through a common gas inlet channel (43).

17. (Currently Amended) Assembly according to claim 13, characterized in that each one of said multiple-inlet cyclones (16A- 16C; 31A- 31E) is provided with a separation chamber which is equipped with guide vanes (17A-17C; 42A - 42E) and whose center axis is aligned essentially upright.

18. (Currently Amended) Assembly according to claim 13, characterized in that the guide vanes (17A - 17C; 42A - 42E) of said multiple-inlet cyclones are spaced in an annular fashion about the inner perimeter of the cyclone chamber, reaching partially or entirely into the riser channel so as to form a louver comprising a plurality of parallel inlet channels for the entering gas flow.

19. (Currently Amended) Assembly according to– claim 13 , characterized in that the number of said parallel-connected multiple-inlet cyclones (16A - 16C; 31A - 31E) is 3 to 300.

20. (Currently Amended) Assembly according to claim 13, characterized in that said assembly is connected to a fluidized catalytic process apparatus or process equipment used in fluidized-bed combustion.

21. (Currently Amended) Assembly according to claim 13, characterized in that said multiple-inlet cyclones have guide vanes serving to divide the gaseous stream into substreams so as to permit an accelerated gas flow velocity to be arranged individually for any one of said substreams.

22. (Original) Assembly according to claim 21, characterized in that the guide vanes are straight.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Leonard R. Svensson (Reg. No. 30,330) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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(Date of deposit)

BIRCH, STEWART, KOLASCH & BIRCH, LLP

Susan M. Farnsworth
(Signature)

April 25, 2003
(Date of Signature)